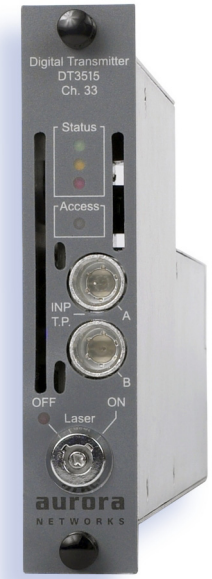
aurora NETWORKS

DT3515

Digital Transmitter

Features

- Digitizes 5–42 or 5–50 MHz RF return paths
- Multiplexes two return segments into a single data stream
- Optical outputs on 100GHz-spaced DWDM grid (ITU-T G.694.1) for up to 40 wavelengths per fiber
- 5 dBm transmit power
- Bit rate 2.125 Gb/s
- Compatible with Aurora's BP-35M4 series of multiplexing back plates for dramatically simplified interconnect cabling
- Front panel laser On/Off interlock switch
- Hot plug-in/out
- Local and remote status monitoring
- Occupies one full-depth slot



The DT3515 Digital Transmitter digitizes two RF return paths (with models supporting 5–42 and 5–50 MHz pass bands), multiplexes them and transmits them on a single return fiber on a DWDM ITU grid wavelength. By providing two RF returns on an ITU grid wavelength, the DT3515 alleviates fiber exhaustion and greatly simplifies the network by enabling the use of DWDM transport from hubs to the headend. The 5 dBm output transmitter power supports link losses up to 23 dB and 200 km dispersion limits.

The unique mid-plane packaging of the DT3515 features two back plate options: a compact one-module width design for single wavelength applications (using optional back plate model BP-A6) or an integrated "Back Plate" multiplexer for DWDM applications (using optional back plate model BP-35M4x-1-02-AS) which eliminates the need for a separate platform or shelf for a typically packaged multiplexer.

The high density packaging enables network operators to install up to 12 transmitters per 3RU chassis, all of which can be monitored remotely or locally from the power supply module. The compact design minimizes rack space requirements in hubs.

DT3515 Product Specifications

Physical:

- Dimensions:

  13.0" D x 4.3" H x 1.0" W (3RU)
  (33 cm x 11 cm x 2.5 cm)
- Weight:

  1.5 lbs (0.68 kg)

Environmental:

- Operating temperature range: –20º to +65ºC (–4º to 149ºF)
- Storage temperature range: –40º to +85ºC (–40º to 185ºF)
- Humidity: 5% to 95% non-condensing

General:

- Hot plug-in/out
- Optical transmission bit rate: 2.125 Gb/s
- Manual gain alignment

Power Requirements:

- Input voltage: 12 V_{DC}
- Power consumption: 12 W

Interface:

- Optical connector: SC/APC (on Back Plate BP-A6 or BP35M4x-1-02-AS)
- RF input connectors: 2 F-type connectors (on Back Plate BP-A6 or BP35M4x-1-02-AS)
- RF input test points: 2 G-type male connectors on front panel

Optical Output:

- Number of channels (models): 44 (DWDM ITU-T G.694.1 Chs 16 thru 59)
- Optical channel spacing: 100 GHz
- Wavelength: *See DWDM ITU Channel Plans description*.
- Wavelength stability: ±0.1 nm
- Output power: 5 dBm ± 0.5 dBm
- Output level stability: ±0.2 dB
- Dispersion limit (SMF-28 fiber): 200 km

RF Inputs:

- Number of inputs: 2
- Isolation between channels: 60 dB (combined with receiver)

Channel characteristics (each channel):

- Passband: 5–42 MHz or 5–50 MHz (model-dependent; *see Ordering Information*.)
- Frequency response: ±0.5 dB
- Input return loss, min: 18 dB
- Level stability: ±0.5 dB
- Gain control range, min: 16 dB (1 dB steps)
- Input level, RF test point: –20 ±0.5 dB
- Test point return loss, min: 18 dB
- System nominal gain: 24 dB

Distortions:

- Input, nominal: –55 dBmV/Hz
- Loading, nominal: 5–40 MHz (QPSK carriers or equivalent Gaussian noise)
- Dynamic range @ 40 dB CNR: 11 dB
- Peak NPR: 47 dB

DWDM ITU Channel Plans:

Aurora Networks supports DWDM network architectures with a variety of products on the standard DWDM ITU Grid (ITU-T G.694.1).

For more complete description of available DWDM ITU Grid channels and Aurora's partitioning into convenient logical groups of 4, 8 and 16 channels in products for DWDM applications, please refer to the Aurora Networks DWDM ITU Grid Channel Plan data sheet.

When ordering DT3515 transmitters on the ITU grid please note, for network planning purposes, that AT3550 "BA" series broadcast transmitters operate at 1563.0 nm ± 0.9 nm, occupying the approximate region of DWDM ITU Grid channels 17 through 19. Similarly, AT3550 "BC" series broadcast transmitters operate at 1545.3 ± 0.9 nm, occupying the approximate region of DWDM ITU Grid channels 39 through 41.

Ordering Information

DT3515--1-2-**-AS**

- **Digital Transmitter**
- **** = DWDM ITU Channel Number (16, 17, 18, ... or 59)** *(Reference Aurora Networks ITU Channel Plan Data Sheet)*
- ***(Reserved Field)***
- **2 = 200 km Dispersion Limit**
- **** = 42 (5-42 MHz Passband) or 50 (5-50 MHz Passband)**
- **AS = SC/APC Connector**

Notes for Module Back Plates

DT3515 series transmitters may be connected to one of two different styles of chassis back plates, which must be ordered separately depending on the application. One style provides connections for a single transmitter. This single-width back plate may be ordered as:

BP-A6

The second style provides connections for a group of four transmitters installed in adjacent chassis slots. These 4-channel mux back plates (for which outputs can be cascaded from one back plate to another) may be ordered for 10 different channel groups (model BP-35M4J for ITU Ch 20-23 thru model BP35-M4U (for ITU Ch 56-59). Please refer to the data sheet for these back plates for specifications and a complete list.

BP-35M4*-1-02-AS

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